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TRANSITION METAL-FIXED ELECTRODE****Derwent Title:** Microbial fuel cell for single reaction tank using transition metal-fixed
electrode [\[Derwent Record\]](#)**Country:** KR Republic of Korea**Kind:** A Examined Patent Application**Inventor:** PARK, DU HYEON; Republic of Korea
SHIN, IN HO; Republic of Korea**Assignee:** E-BIOTECH Republic of Korea
[News, Profiles, Stocks and More about this company](#)**Published / Filed:** 2003-06-27 / 2001-12-21**Application** KR2001000082828**Number:****IPC Code:** Advanced: **H01M 8/16**;
Core: more...
IPC-7: **H01M 8/16**;**ECLA Code:** None**Priority Number:** 2001-12-21 KR2001000082828**Abstract:** PURPOSE: A microbial fuel cell for a single reaction tank, using a transition metal-fixed electrode, is provided, to enable a process for reducing the generation of sludge when applied to the waste water treatment to be developed, by inhibiting the growth of microorganism and promoting the degradation velocity of substrate by limiting the usage efficiency of microorganism. CONSTITUTION: The microbial fuel cell comprises a negative electrode fixing a transition metal capable of being reduced by the reducing power generated by the metabolism of microorganism; a positive electrode fixing a transition metal capable of being oxidized by oxygen; a reaction tank which contains the negative electrode inside and whose one face is made of the positive electrode, wherein the one side of the positive electrode is contact with air; an electrolyte; and a microorganism catalyst. Preferably the transition metal fixed to the negative electrode is at least one selected from the group consisting of CuO, nickel oxide and tin oxide; and the transition metal fixed to the positive electrode is at least one selected from the group consisting of Fe₂O₃, zinc oxide and aluminum oxide. Preferably the positive and negative electrodes made of graphite.**Family:**

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